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Covid-19 Vaccine Hesitancy and National Security – A Serbian Case Study

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Summary

Drawing on the research findings of the survey and a review of the scientific and professional literature, this paper seeks to indicate a correlation between vaccine hesitancy and national security. On the one hand, the paper argues that health is of particular concern to the modern sovereign state and its security, and that the vaccine as a civilizational achievement is one of the most vital mechanisms for safeguarding public health and, by extension, national security. On the other hand, the paper contends that vaccine hesitancy should also be considered a threat to national security. What vaccine hesitancy means and what factors contribute to it is something of a blind spot in Serbia's public and academic discourse. The survey findings have shown that vaccine hesitancy is influenced by various factors and conclude that Covid-19 vaccine hesitancy in Serbia can be considered a threat to national security.

Keywords: National Security, Vaccine Hesitancy, Public Health, Covid-19, Serbia

Introduction

The first study in the domain of social science to investigate the link between public health and security was conducted in 1995 by Dennis Pirages. Supporting the concept of 'microsecurity' (emerging infectious diseases as the problem for both public health and international relations), Pirages suggests thinking about infections from the point of view of national security (Pirages, 1995). Starting from the concept of 'microsecurity', but also Ullman's understanding that defining national security only from a military point of view creates a "false image of reality" and leads states to focus on military threats and neglect lots of other threats, such as decimating epidemics, which could be even more dangerous (Ullman, 1983, p. 129), a lot of authors focused on the issue of securitization of infectious diseases, i.e.,

the impact of infectious diseases on security (see Price-Smith, 2001, 2002; Elbe, 2002; Singer, 2002; Youde, 2005; McInnes, 2006). Therefore, McInnes states that the "beginning of the treatment of health as a security issue" is the period of the late 1990s, when the attention shifted from military security threats to "diffuse risks" (McInnes, 2008, p. 276). A certain contribution to this was made by the adoption of the first Security Council resolution on non-traditional security threats, namely Resolution 1308 (2000), by which for the first time in history a disease (HIV/AIDS) was declared a threat to international peace and security. However, not every pathogen is considered a security threat. According to Price-Smith, the question of whether a pathogen will be considered a security threat depends on several criteria: mortality, transmissibility, fear and economic losses (Price-Smith, 2009, p. 4). He explains the link between infectious diseases and national security by saying that "health is the fulcrum of material power" (*ibid*., p. 1) and, by extension, that it is of particular concern for the modern sovereign state and its security. Therefore, as an antithesis to health, Price-Smith cites epidemics and pandemics of infectious diseases, which pose a direct threat to the power of the state and national security. Given that infectious diseases lead to far greater population mortality rates than wars normally do, the recurrence of older perils and the emergence of new and lethal pathogens pose a very real threat to the security of the population of the modern state (Price-Smith, 2002). Price-Smith argues that disease can affect society in many spheres, such as demographics, economy, politics and psychology (Price-Smith, 2009, p. 20). However, it is also necessary to point out that "public health entails a social contract based on trust" (Awofeso, 2012, p. 90) in institutions and that betrayal of this trust can have negative implications on government's future decisions regarding public health and security.

The Covid-19 pandemic is an example of how infectious disease can have a devastating impact on all spheres of life and levels of security (from human to international). According to WHO data, as of April 3, 2021 there were 129,902,402 confirmed cases of Covid-19, including 2,831,815 deaths (WHO, 2021). In addition to huge losses in life, the economic losses have been immeasurable. The World Bank estimates that "the pandemic is expected to plunge most countries into recession in 2020, with per capita income contracting in the largest fraction of countries globally since 1870" (The World Bank, 2020). According to Fukuyama, this pandemic "has been a global political stress test... the stress test has been so hard that very few are likely to pass" (Fukuyama, 2020, p. 31). In response to the pandemic, many countries adopted restrictive measures such as isolation, quarantine, state of emergency, curfews and closing of borders, which resulted in violence and protests. According to ACLED COVID-19 Disorder Tracker (CDT) data, increased demonstration activity over government responses was recorded in many countries, including Serbia (The Armed Conflict Location & Event Data Project, n.d.). For this reason Seloom

states that Covid-19 "redefined the front lines of national security" (Seloom, 2020), and also that the pandemic "has exposed many gaps in security systems and critical infrastructures worldwide" (Seloom, 2020). Hamilton reports that Covid-19 has done more damage than almost any war America has ever fought (Hamilton, 2020), while a research study conducted by RAND concludes that a successful national response to Covid-19 could be produced if the pandemic were elevated from a public health emergency to a national security crisis (Klarevas and Clarke, 2020). In July 2020 the EU adopted a new security strategy (EU Security Union Strategy) which asserts that the "COVID-19 crisis has reshaped our notion of safety and security threats" (European Commission, 2020).

Bearing in mind the manifold far-reaching implications of infectious diseases, Elba argues that states regard the development of new medicines and vaccines as critical for the protection of national security. Or, as Elba puts it, states undertake to "encapsulate security" (Elbe, 2018). Of course, there is the question of whether states are able to follow this through, particularly at the peak of the Covid-19 pandemic.

"Encapsulate or Decapsulate" Security in the Covid-19 Era?

While the vaccine is regarded as a civilizational achievement and one of the most successful public health measures, numerous researches indicate that, on the whole, public support for vaccination in Europe, the United States, and other countries is decreasing and antivaccine movements are becoming stronger (Black and Rappuoli, 2010). As a result of the publication of Wakefield's work on the correlation between the MMR vaccine and autism, the percentage of MMR vaccinations in Great Britain dropped from 92% in 1995 to 84% in 2002 (Calvert *et al*., 2013), and a measles pandemic was declared in 2008 (Hussain *et al*., 2018). At the same time, according to WHO data for the European region, in 53 countries cases of measles leapt from 5273 in 2016 to 83 540 in 2018 (Burki, 2019). Furthermore, Benecke and DeYoung (2019) state that the measles outbreak in 2019 reached emergency levels in the United States. As a result of the measles pandemic, but also because of other diseases that can be prevented by vaccination, in 2019 the WHO ranked vaccine hesitancy among the top ten threats to public health (WHO, 2019).

Even though vaccine hesitancy is considered to be a threat to public health, researches show that Covid-19 vaccine hesitancy is increasing worldwide, too (Schwarzinger *et al*., 2021). Lazarus *et al*. (2021) report that differences in acceptance rates ranged from almost 90% (in China) to less than 55% (in Russia). A survey on Covid-19 vaccine acceptance that included a review of 31 published researches indexed on PubMed showed that among adults representing the general public, the lowest Covid-19 vaccine acceptance rates were found in Kuwait (23.6%), Jordan

(28.4%), Italy (53.7), Russia (54.9%), Poland (56.3%), the US (56.9%), and France (58.9%) (Sallam, 2021).

While many countries have conducted surveys on vaccine hesitancy (in general, but also with regard to Covid-19) and the correlation between public health and national security, these have been very scarce in Serbia. Even though in the course of its history Serbia faced numerous epidemics and pandemics that threatened to compromise its security (the 1915 typhoid fever epidemic or the 1972 smallpox epidemic), infectious diseases were never perceived as a serious risk. This was clearly seen at the very onset of the Covid-19 pandemic, which was dubbed a pandemic that only existed on Facebook, while the virus itself was laughed off as the most ridiculous virus in the history of mankind. And yet, "the most ridiculous virus" soon forced the government to impose a lockdown and declare a state of emergency. The inadequate response at the outset of the pandemic is now being redressed by the vaccination program, which began in early 2021. According to *The Economist*, "a poor country by European standards, and plagued by corruption, it nonetheless has one of the world's fastest Covid-19 vaccination campaigns" (*The Economist*, 2021). Further, *The New York Times* reports that Serbia "has Europe's second-highest rate of inoculations after embracing vaccines from all suppliers" (Higgins, 2021). However, even though Serbia has embraced vaccines from all suppliers, a segment of its population, the young in particular, have not.

Given all the implications of Covid-19 for the population's (physical and mental) health and the country's economy and security, it is only reasonable to ask why there is such resistance to vaccination as a measure that could put the pandemic in check and bring life back to "normal". Or to put it another way, why Serbia (as well as other states) is failing to "encapsulate security"?

This is the reason why I undertook a pilot study about attitudes towards vaccination, based on the Vaccine Hesitancy Survey (VHS), whose results will be presented in the text. Before that, however, I must consider the very definition of vaccine hesitancy and its relation with national security, and present a chronological overview of the beginnings of vaccination in Serbia and the evolution of resistance to it.

What is the Link between Vaccine Hesitancy and National Security?

There is a lack of literature that is directly associating vaccine hesitancy to national security. However, if we start from Ullman's definition of national security (which is echoed by authors who have researched the securitization of infectious diseases): "threat to national security is an action or sequence of events that (1) threatens drastically and over a relatively brief span of time to degrade the quality of life for the inhabitants of a state, or (2) threatens significantly to narrow the range of policy

choices available to the government of a state or to private, nongovernmental entities (persons, groups, corporations) within the state" (Ullman, 1983, p. 133), it is possible to conclude that vaccine hesitancy represents a phenomenon "that threatens drastically to degrade the quality of life". Namely, there is clear evidence that the vaccine hesitancy increases the incidence of vaccine-preventable disease and spread of disease, as well as morbidity and mortality, as described in the previous sections. On the other hand, according to Isaacs, vaccination "currently prevents 2.3 million deaths a year, but could save a further 1.5 million lives annually with improved global vaccine coverage" (Isaacs, 2019, p. 1293). Beside increasing the incidence of morbidity and mortality, the spread of disease can weaken public confidence in government policy, undermine a state's social order, have a huge negative impact on economy and productivity losses, engender regional instability, and pose a strategic threat through bioterrorism and/or biowarfare (Brower and Chalk, 2003, xiii). Research conducted by the Sabin-Aspen Vaccine Science & Policy Group has also found that vaccine hesitancy is linked with problems such as poverty, gender discrimination, security issues and other barriers (The Sabin-Aspen Vaccine Science & Policy Group, 2020, p. 56). Center for Strategic and International Studies' (CSIS) research *Why Vaccine Confidence Matters to National Security* has proved that vaccine hesitancy in the US, if not addressed properly, can be a significant barrier to reopening economies and society, which are basic national security matters (Bliss, Morrison and Larson, 2021). Namely, as Bliss, Morrison and Larson argue, Covid-19 vaccine hesitancy affects national security in several ways. It has a negative economic impact; aggravating social inequalities; increasing political tensions; eroding effective engagement in trade, security, humanitarian, and diplomatic missions; damaging education, research and innovation; increasing outbreak of other vaccine-preventable diseases (Bliss, Morrison and Larson, 2020). I argue that these negative impacts of vaccine hesitancy on national security could be applied to any other country, including Serbia. Furthermore, these authors point out that vaccine hesitancy is mistakenly understood as mainly a health issue, and that we need to confront the reality that vaccine hesitancy is an urgent national security matter (*ibid*.), and I strongly agree with them.

Nevertheless, in order to better understand this threat, there is a need to define it. According to the SAGE Working Group's definition, "vaccine hesitancy refers to delay in acceptance or refusal of vaccination despite availability of vaccination services. Vaccine hesitancy is complex and context specific, varying across time, place and vaccines. It is influenced by factors such as complacency, convenience and confidence" (MacDonald, 2015, p. 4163). In this respect it should be noted that before this definition was adopted, researchers used different terminology to describe this phenomenon, such as vaccine resistance, vaccine opposition, and various other terms (Kumar *et al*., 2016).

Beside the definition provided by the Working Group, Isaacs argues that "the word hesitancy means a psychological state of uncertainty" (Isaacs, 2019, p. 1293). It is, therefore, necessary to establish who and/or what affects this uncertainty. The SAGE Working Group has developed a framework for understanding and grouping vaccine hesitancy determinants – the Vaccine Hesitancy Determinants Matrix. According to the Matrix, vaccine hesitancy is determined by many factors, which fall into several categories: 1) historical, social, cultural, environmental, economic, political and institutional factors (contextual influences); 2) personal perceptions or beliefs of the vaccines and influences from the social environment (individual and group influences); and 3) introduction of a new vaccine or new formulation, reliability and/or source of vaccine supply, etc. (vaccine and vaccination-specific issues) (The SAGE Vaccine Hesitancy Working Group, 2013).[1]

Among the most prevalent 'contextual influences' cited in the reviewed studies are conspiracy theories, as they fuel the fear that vaccines are introduced to serve the economic and/or political interests of pharmaceutical companies. Influences by individuals and groups involve personal perceptions or beliefs that vaccines are unsafe and, more to the point, that they can cause severe diseases and side effects (ECDC, 2015).With reference to these factors, Verger and Dubé argue that vaccine hesitancy is linked to the "balkanization of scientific knowledge", that is, to the dissemination of partial, arbitrary and even contradictory data and information (Verger and Dubé, 2020). According to McIntosh *et al*., the growing threat of vaccine hesitancy is a sort of "cultural epidemic" (McIntosh *et al*., 2016, p. 248).

This kind of cultural epidemic and, ironically, "the balkanization" of scientific knowledge also took hold in Serbia at the height of the Covid-19 pandemic.

Vaccine Hesitancy – Serbian Context

The first vaccination regulation, "Rules for Inoculation of Smallpox", appeared in 1839, and the first mandatory inoculation, in the then Kingdom of Serbia, was introduced in 1881. At the beginning of the 20th century, more precisely in 1901, vaccine production began in Serbia (Ristanovic *et al*., 2016), and was followed in 1927 by the first systematized immunization scheme that included the BCG vaccine and shortly afterwards the diphtheria and tetanus vaccines. As per Trifunović, there are no records of organized opposition to these procedures (Trifunović, 2019, p. 511). Some instances of opposition to vaccination, Radovanović explains, were recorded

[1] The Matrix includes determinants derived from a range of sources: a systematic literature review and interviews with immunization managers, research studies, experience of Working Group members in the field, discussions with experts working in the area. For more, see: https://www.who.int/immunization/sage/meetings/2014/october/1_Report_WORKING_GROUP_vaccine_hesitancy_final.pdf

in 1947 in the wake of the Lübeck incident,[2] but they came to nothing under Yugoslavia's authoritarian regime (Radovanović, 2017, p. 199). In addition to regular and mandatory inoculations, in 1972 the first mass vaccination program was implemented after the smallpox outbreak (the last case before 1972 was recorded in 1930). Within three weeks, health workers joined forces with the Yugoslav National Army to vaccinate 18 out of 20.8 million citizens. Papers published in the 1970s point out that "not enough care was taken about the records on the vaccine's origin and series" (Petrović *et al*., 1974, p. 29), since at the time of the epidemic Yugoslavia only had one million doses available and was forced to seek help from other countries. During the pandemic, the government ordered local lockdown, cancelled all sports events and took measures to organize local emergency hospitals and quarantine wards, but because the citizens trusted the government, the healthcare system, security institutions (above all, the military) and other institutions, no protests or serious opposition ensued (Ferhadbegović, 2020). Some instances of opposition to the vaccination occurred in places in Kosovo and Metohija with a predominantly Albanian population, for religious and cultural reasons but also as a result of diminished trust in the government. The opposition to vaccination in this area culminated in the 1990s mainly due to political issues and ethnic tensions. Parents forbade Serbian doctors from vaccinating their children against measles, claiming the vaccine would cause sterility. This resistance resulted in a higher incidence of measles and other children's infectious diseases. According to data available for Kosovo, 16 756 measles cases and 43 measles-related deaths were reported between 1989 and 1998 (ReliefWeb, 2002).

The actual development of anti-vaccination movements in Serbia began with the publication of the Wakefield Paper and the emergence of social media and networks since, according to Benecke and DeYoung, "medical knowledge that was once held exclusively by medical professionals is now accessible to anyone and can be shared in posts that become 'viral'" (Benecke and DeYoung, 2019, p. 2). Social media posts focus chiefly on the negative experiences, as these are recognized more easily than the main benefit of vaccination, i.e., the absence of disease. To take one example, the MMR vaccine administration in Serbia was above 95% until 2011, but dropped to 85.6% in 2014 under the influence of the anti-vaccination movement, which resulted in 605 new cases of measles at the beginning of 2015 (Stokić Pejin, 2016). According to the available data in the period between October 2017 and

[2] During an incident that would later become known as the "Lübeck catastrophe", 251 babies received three oral doses of the new BacilleCalmette – Guérin (BCG) antituberculosis (TB) vaccine, contaminated with a virulent strain of *Mycobacterium tuberculosis*. 173 of the children developed clinical or radiological signs of infection but survived, while 72 of them died (see: Fox *et al*., 2016).

August 2019, on the territory of the Republic of Serbia there were 5798 registered cases of measles, of which 15 ended in fatalities as a result of complications. These were the first death cases caused by the virus in 20 years and 94% of the infected people had not been vaccinated, had been incompletely vaccinated or had unknown vaccination status (Ajzenhamer and Rokvić, 2021, p. 74). Vaccination hesitancy was also in evidence during the 2009 H1N1 pandemic. The H1N1 epidemic in Serbia was declared on November 11, 2009 and urgent steps were taken to secure vaccines that had not been registered in Serbia. According to Kešetović, in spite of the vaccination officials' intense campaigning, out of 850,000 procured vaccines only 150,000 were used (Kešetović, 2020, p. 154). However, Serbia had ordered a total of 3 million vaccines, but due to the citizens' poor response to vaccination, the government decided to halt the procurement. And yet, despite this decision, another batch of 395,000 doses was acquired, putting a dent in the state budget of an estimated 1.6 million euros (Lazić, 2011).What is more relevant to the subject of this paper, though, is the fact that the Working Group tasked with monitoring the pandemic included Dr Kon and Dr Tiodorović (then president of the state committee for purchasing vaccines), both of whom are members of the current Crisis Response Team for the prevention of the Covid-19 pandemic. The undermined credibility of the Team members and the firm belief that they are lobbyists for pharmaceutical companies have considerably shaken the trust of a portion of the population in the decisions made by the Crisis Response Team in Serbia.

According to UNICEF's research *Tracking Anti Vaccination Sentiment in Eastern European Social Media Networks*, it is individuals who play a key role in shaping the public opinion on vaccination and spreading misinformation (Majewski and Beger, 2013). Presently, a considerable influence in shaping the public opinion on vaccination in Serbia is wielded by Dr Jovana Stojković, who believes that it is better to have infectious diseases such as measles rather than be vaccinated against them, as vaccines cause autoimmune diseases, chronic illnesses in children, autism, leukemia and other types of cancer (Ajzenhamer and Rokvić, 2021). However, the activity of anti-vaxxers and the spreading of false and unverified information came to a head when the Covid-19 pandemic broke out and the immunization program began in Serbia.

Covid-19 Hesitancy or How It All Started: From "the Most Ridiculous Virus" to the Appeal for Vaccination and Safeguarding National Security

The beginning of the Covid-19 epidemic in Serbia in late February 2020 was marked by the statements made by representatives of the Crisis Response Team, in the presence of the President of Serbia, that this was "the most ridiculous virus in the history of mankind, the kind that only exists on Facebook" and that "estrogen

will protect women", who could safely "go shopping for clothes in Milan" even as the pandemic was peaking and Italy was locking down (Dimitrijević, 2020). Within only 15 days of these statements, a state of emergency was declared in Serbia. One of the contentious issues is who, and under what authority, decided that a state of emergency should be declared, while an analysis of the responses to Covid-19 has shown that on many occasions the restrictions of human rights imposed during the state of emergency were not regulated by appropriate decrees, and that in issuing these decrees, their makers exceeded their constitutional and legal authority (see Pajvančić *et al*., 2020).

Within a very short time, government representatives actually went from "minimizing risks" into another extreme, i.e., intimidating citizens (Kešetović, 2020, p. 157). Namely, on the night of March 31 over 5 million users of the mobile provider MTS received an SMS message from 'Covid-19': *"The situation is dramatic. We are getting close to the Italian and Spanish scenario. Please stay at home."* The President then told the citizens, referring in particular to pensioners, that existing "cemeteries will not be big enough" (*ibid*.). Statements of the Head of the Crisis Response Team, a body legally established months after the first decisions and restrictive measures had been taken, were inconsistent and, at times, incorrect (*ibid*.). According to the Ebart analysis of media coverage[3] on the Covid-19 epidemic in Serbia (February 26 – May 6 2020), the approach that was most noticeable at the very beginning of the pandemic was to minimize the gravity of the situation (Ebart, 2020), while a search of the Poynter The CoronaVirusFacts/DatosCoronaVirus Alliance Database[4] comes up with a host of fake news stories published in the media, such as the one from April 2020 saying that Serbia does not have sufficient Covid-19 tests or that we are the first country in Europe which organized the Covid-19 Infection Disease Crisis Response Team, Prime Minister Ana Brnabić's claim that the number of ventilators is a state secret in all countries, President Vučić's claim "that no one said coronavirus is the 'funniest' virus", and more.[5] However, what truly caused outrage in part of the public was a survey conducted by BIRN, which pointed to discrepancies in, that is, false representations of data about Covid-19

[3] The report includes a content analysis of six daily newspapers with different editorial policies – Blic, Danas, Informer, Kurir, Politika and Večernje Novosti, and three TV stations– RTS, TV Pink and TV N1, which was carried out for the period between February 26 and May 6, 2020, in other words, from the first public announcements concerning the coronavirus pandemic made by state authorities of the Republic of Serbia to the lifting of the state of emergency.

[4] This database unites fact-checkers in more than 70 countries and includes articles published in at least 40 languages.

[5] See: Poynter, The CoronaVirusFacts/DatosCoronaVirus Alliance Database, Serbia, https://www.poynter.org/ifcn-covid-19-misinformation/?covid_countries=47472&covid_rating=51174&covid_fact_checkers=49806

deaths. Namely, according to the network's data, in the period between March 19 and June 1, 2020, there were a total of 1081 recorded deaths whereas the Crisis Response Team made public only 224 (Jovanović, 2020).

As the parliamentary elections in June 2020 approached, the abruptly imposed state of emergency and curfew measures were relaxed and victory over the virus was declared in the leading political party's pamphlet. This led to a culmination of new waves of the epidemic (from 48 positive cases in March 2020 to over 7000 new cases in December), but also to violent protests in the capital's streets and security threats. Unfortunately, rather than acknowledge their mistakes and omissions, the decision makers placed the responsibility for the increase in the number of infected people mainly on the citizens. The period from May 2020, when the state of emergency was lifted, through April 2021 was marked by constant contradictory messages sent out by two sections of the Crisis Response Team: the so-called Medical Section, which warned about the dangers of the virus and called for introduction of more restrictive measures for the citizens, and the so-called Political Section, which, according to Kešetović, communicated arrogance and despotism... and concern for winning political points as well as contradictory attitudes about the measures suggested by the medical section (Kešetović, 2020, p. 156). At the same time, a citizens association called United Against Covid-19, numbering over 3000 doctors, was founded as a counterpart to the Crisis Response Team. A press release of this association states that there are "justified fears that the data publicized by those in authority is incomplete, haphazardly gathered, inexpertly presented and deliberately altered, including the data on COVID mortality rates in our country. What this does is it artificially minimizes the gravity of the current epidemic situation and perpetuates the false image that the healthcare system is keeping the epidemic under control" (UPK, 2021). As a result, the citizens are still unable to grasp the real danger of the virus and the necessity of taking all the precautionary measures, and at the same time they have lost trust in the institutions (Kešetović, 2020, p. 156).

The beginning of 2021 was marked by the acquisition of Covid-19 vaccines, as well as by the launch of a large-scale program of voluntary immunization with four available vaccines (*Pfizer-BioNTech*, *Sinopharm*, *Sputnik V*, *AstraZeneca*). And yet, despite the acquisition of a large number of different vaccines, the citizens' response has been unsatisfactory. A large portion of the student population and, generally speaking, of young people have refused to get vaccinated. At the same time, the overall situation led to a 30% drop in the measles vaccination rate, likely putting Serbia at the risk of a new epidemic in the foreseeable future (Čalija, 2021). This is precisely why vaccination was submitted as an agenda item at the meeting of the National Security Council held in March 2021 and raised as a security issue: "vaccination will determine Serbia's economic future" (The President of the Republic of Serbia, 2021). An OECD report estimates Serbia's economic losses in infrastructure

and transport in March 2020 at over 110 million euros, and losses in tourism in the period between March and April 2020 at 2.7 million euros (OECD, 2021). However, the primary cost of Covid-19 and any other infection disease is loss of life (Laxminarayan and Malani, 2012). As of April 3, 2021, Serbia had 614,365 cases and 5,422 deaths, which, in per capita terms (6,945,235), puts it among the countries that have been harder hit by the pandemic.[6]

The National Security Strategy of the Republic of Serbia recognizes epidemics and pandemics of infectious diseases as potential security threats, as was pointed out by the Defence Minister in his address to the enrollees of the 10th class of Advanced Security and Defence Studies[7]; he said that this pandemic was an example of how a health situation could become "a national security risk" and warned against "the dangers of anti-vaccination initiatives" (Ministry of Defence Republic of Serbia, 2021). The dangers of anti-vaccination initiatives have been spotlighted by other officials, so that in early April 2021 the government decided to "declare war on anti-vaxxers" (Davidov Kesar, 2021) who, according to Prime Minister Brnabić, "pose a serious risk to national security" (Radio Slobodna Evropa, 2021). Indeed, several other individuals and anti-vaccination movements have contributed to vaccine hesitancy. Since the launch of the Covid-19 immunization program, Dr Stojković has been fiercely campaigning against vaccination. In her presentations and videos, she has spoken about human rights infringement, "vaccination apartheid" and claimed that a great number of people are actually falling ill after getting vaccinated (Stojković, 2021). In a video address in March 2021, she asked why Serbia had an abundance of vaccines replying that we "don't really live in a state, but rather in an experimental cage of sorts" (*ibid.*). A survey carried out by the Atlantic Council BiEPAG[8] indicates "a direct link between support for conspiracy theories and skepticism toward vaccination". At the same time, the survey reveals that the speed at which the vaccine was developed poses the biggest concern for citizens who are reluctant to get vaccinated (Đurđević, 2020).

However, as has been mentioned, vaccine hesitancy is determined not only by the activities of anti-vaxx movements, but also by a host of other factors which produce feelings of uncertainty and fear. In Serbia's case, these include the minimization of

[6] See: "Data on cases of COVID-19 in Serbia", Institute for Public Health "Dr Milan Jovanovic Batut", Ministry of Health and Institute for Public Health, accessed April 3, 2021, https://covid19.rs/homepage-english/

[7] Advanced Security and Defence studies provide the highest level of professional education in the defense system and are aimed at educating students and preparing them for high-ranking offices in the national security system.

[8] The survey was conducted in six Western Balkan countries in October 2020 on a nationally representative sample of a minimum of 1,000 respondents aged 18+, through telephone and online interviews.

dangers at the very onset of the pandemic, the measures implemented by the government during the pandemic, the Infodemic, the integrity of the Crisis Response Team members, the legitimacy of the Team's decisions at the beginning of their activity, and the manipulation with the numbers of Covid-19 cases and deaths. According to Ajzenhamer and Rokvić, the discordance between messages sent out by the officials, as well as the different and often confusing, inconsistent and contradictory narratives about vaccines and vaccination, has given rise to a situation the authors term "illocutionary cacophony", which throws the citizens into confusion, fear, loss of trust in the existing political system, society's institutions and authorities, creating mistrust in the effectiveness and efficacy of vaccines (Ajzenhamer and Rokvić, 2021). However, in order to better understand the drivers of vaccine hesitancy in these specific settings and, consequently, their impact on national security, it was necessary to conduct a corresponding survey, which was modeled on the Vaccine Hesitancy Survey (VHS).

Method

The questionnaire used in the survey was based on the one developed by WHO SAGE Working Group on Vaccine Hesitancy – Vaccine Hesitancy Survey (VHS). Namely, VHS was developed as a tool to assess not only individual attitudes on vaccination but also determinants or drivers of hesitancy at the global, national or subnational levels (The SAGE Vaccine Hesitancy Working Group, 2013). To put it another way, VHS was developed to assess "the nature and scale of hesitancy issues" (Larson *et al*., 2015, p. 4165). Given the specific situation caused by the pandemic, online questionnaire and snowball sampling were used in this survey. The participants were reached via e-mails and social media tools (Facebook). The questionnaire was sent out to respondents employed in the pharmaceutical industry, medical workers, medicine students and security students, but also to closed (private) Facebook groups who propagate anti-vaxx ideas and who generally belong to "hard-to-reach populations". The respondents were then asked to send on the questionnaire to other respondents who shared similar interests in and attitudes about the topic. In the survey, the participants responded to a total of 34 items, including standard demographic questions regarding age, gender and level of education. Survey data was collected from 22.10.2020 to 30.11.2020. The questionnaire was completed by 585 respondents. No personally identifiable information was collected or stored. However, certain strengths and limitations of this study must be pointed out. The novelty of this research and the impetus it provides for further, more serious research count as its strengths. On the other hand, it should be noted that the data does not provide nationally representative results and that the survey represents snapshots taken at a point in time. It was carried out against the backdrop of a highly dynamic and changing landscape, with day-to-day oscillations in perceived disease threat and development of Covid-19 vaccine. Namely, at the time of the survey, none of the vac-

cines had been available. This article will present only a portion of the study with the analysis of some of the answers related to the questions of contextual, individual and group influence, as well as specific vaccination issues.

Results

The questionnaire was completed by 585 respondents, of which 75.6% were female and 24.4% male. As for age, all groups were represented, although the respondents were predominantly young people, i.e., students. In terms of education, the majority of respondents said that they had higher education (65.2%). I assume that the large percentage of highly educated respondents stems from the fact that the students, although not having formally completed their studies, chose the option "higher education" in the questionnaire.

Table 1. Respondents' general demographic data (gender, age, educational level)

Characteristic	No.	%	Valid %
Gender			
Male	143	24.4	24.4
Female	442	75.6	75.6
Total	585	100.0	100.0
Age			
18-24	191	32.6	32.6
25-34	106	18.1	18.1
35-44	132	22.6	22.6
45-54	121	20.7	20.7
55 and up	35	6.0	6.0
Total	585	100.0	100.0
Education			
Complete primary	2	0.3	0.3
Complete secondary	202	34.5	34.5
Higher	381	65.2	65.2
Total	585	100.0	100.0

Vaccine hesitancy should always be viewed within the historical, political and socio-cultural circumstances in which vaccination takes place. Trust put in the sys-

tem that provides vaccines, in the health workers who recommend and give the vaccines, in the policy makers who take decisions about vaccination programs and in the different types of information about vaccines broadcast in the media also contributes to the influence of these factors on vaccine hesitancy (Dubé *et al*., 2013). That is why I chose to incorporate the questions from the Vaccine Hesitancy Survey that concern communication, historical factors, politics and the pharmaceutical industry.

With regard to communication, i.e., who the respondents trust the most/least as far as information about vaccines is concerned, the respondents were offered several answers as well as the option to write in their own answer. Table 2 shows that the respondents trust health institutions the most (34.5%). On the other hand, when asked whom they trust the least, the respondents cited politicians (32%), social media (30.8%) and traditional media (19.3%). The root causes of the lack of trust in politicians can be traced back to their initial response to the pandemic, i.e., "risk minimization", intimidation of the citizens, dissemination of contradictory information, pressure on the population to get vaccinated, etc. The respondents also expressed a deep distrust of the media, mainly because they spread fake, contradictory and confusing news, and create illocutionary cacophony, as Ajzenhamer and Roković put it. Namely, besides state officials and members of the Crisis Response Team, who propagate vaccination, dissenting voices can often be heard in the media, e.g., representatives of the United Against Covid-19 group, who criticize the Crisis Response Team, and anti-vaxxers, who speak about the detrimental effects of vaccines, all of which creates confusion and uncertainty among the population, which, according to Isaacs, is inherent to the term hesitancy.

Table 2. Contextual influence (communication and media)

Who do you trust the most for information on vaccine?			
	No.	%	Valid %
Traditional media	10	1.7	1.7
Social media	27	4.6	4.6
Scientific journals	157	26.8	26.8
Health institutions	202	34.5	34.5
WHO	123	21	21
Politicians	0	0	0
Influencers/Celebrities	5	0.9	0.9
No one	61	10.4	10.4
Total	585	100.0	100.0

Who do you trust the least?			
	No.	%	Valid %
Traditional media	113	19.3	19.3
Social media	180	30.8	30.8
Scientific journals	6	1.0	1.0
Health institutions	17	2.9	2.9
WHO	36	6.2	6.2
Politicians	187	32.0	32.0
Influencers/Celebrities	46	7.9	7.9
Total	585	100.0	100.0

Given the specificity of the situation, an additional question was included in the survey: "Do you believe the official information provided by the Crisis Response Team?" As the table shows, 77.1% of the respondents do not believe the information provided by the Crisis Response Team. The reasons for distrust include the Team's early response to the pandemic, their laughing off the virus, giving contradictory information, manipulating the numbers of Covid-19 cases and deaths, not to mention the integrity of its members and the legitimacy and legality of the body itself. According to Vojinović, the applicable infectious disease control acts do not provide for a body called Crisis Response Team (Vojinović, 2020), and it is precisely this body that recommends sanctions and punitive measures for citizens, which is seen by many as infringement of fundamental human rights. It is worthwhile to mention that this body became operational in late February 2020, while the formal decision on its formation was passed seven months later.

Table 3. Contextual influence (communication and information – Crisis Response Team)

Do you believe the official information provided by the Crisis Response Team?			
	No.	%	Valid %
Yes	53	9.1	9.1
No	451	77.1	77.1
Not sure	81	13.8	13.8
Total	585	100.0	100.0

As far as historical influences are concerned, when asked if they remembered any events in the past (and, if so, which ones) that would discourage them from getting a vaccine, only 16.1% of the respondents said "Yes".

Table 4. Contextual influence (historical influences)

Do you remember any events in the past that would discourage you from getting a vaccine(s) for yourself or your children?			
	No.	%	Valid %
Yes	94	16.1	16.1
No	403	68.9	68.9
Not sure	88	15.0	15.0
Total	585	100.0	100.0

In response to an optional question "Can you name an event in the past that diminished your trust in vaccination?", more than 50 respondents provided answers. Most of their replies were related to the link between vaccines and autism. Here are some of them: 1. Autism in my family was caused by a vaccine. This was confirmed by doctors. 2. Upon vaccination, people develop illnesses such as autism, multiple sclerosis, etc. 3. In 2009 I received a flu shot and soon got so sick I had to be put on methyl-prednisolone. 4. The babies who died from the MMR vaccine. 5. My grandfather died after he got the tuberculosis vaccine. 6. Some people close to me developed neurological disorders after getting vaccinated. 7. After getting a vaccine, the child of a person I know went into a coma. 8. After getting the meningococcal vaccine, a child from my neighborhood contracted meningitis and developed permanent disability. 9. My friends' son got vaccinated. He has been ill since that day – Autism. In addition to these specific answers, there were those that indicated mismanagement of the purchase of H1N1 vaccines and distrust of the Crisis Response Team members.

Besides expressing distrust of politicians regarding the information they provided, a large number of the respondents disagreed with the official vaccination recommendation (42.9%), while 48% were not convinced that the government provided good quality vaccines.

Table 5. Contextual influence (politics/policies)

Did you ever disagree with the choice of vaccine or vaccination recommendation provided by your government?			
	No.	%	Valid %
Yes	251	42.9	42.9
No	274	46.8	46.8
Not sure	60	10.3	10.3
Total	585	100.0	100.0

I'm convinced that my government purchases the highest quality vaccine available.			
	No.	%	Valid %
Yes	45	7.7	7.7
No	281	48.0	48.0
Not sure	259	44.3	44.3
Total	585	100.0	100.0

Table 6. Contextual influence (pharmaceutical industry)

Do you believe the vaccine producers are interested in your health?			
	No.	%	Valid %
Yes	130	22.3	22.3
No	264	45.1	45.1
Not sure	191	32.6	32.6
Total	585	100.0	100.0
Do you think governments are "pushed" by lobbyist or industry to recommend certain vaccines?			
	No.	%	Valid %
Yes	399	68.2	68.2
No	36	6.2	6.2
Not sure	150	25.6	25.6
Total	585	100.0	100.0
Do you trust pharmaceutical companies to provide safe and effective vaccines?			
	No.	%	Valid %
Yes	151	25.8	25.8
No	203	34.7	34.7
Not sure	231	39.5	39.5
Total	585	100.0	100.0

In addition to the contextual influence, I also analyzed to some degree individual and group influences, primarily beliefs and attitudes about health and prevention as well as knowledge/awareness and trust in the health system. While the survey results show that a large number of the respondents do not believe that there are better ways to prevent diseases other than vaccines (37.8%), the number of those

who responded with "Not sure" is far more telling (as many as 47.7%). Over 50% of the respondents feel that they do not get enough information about vaccine and its safety, while 68.9% believe that the authorities do not discuss side effects following immunization openly enough.

Table 7. Individual and group influences (beliefs, attitudes about health and prevention; knowledge/awareness)

Do you believe that there are other (better) ways to prevent diseases which can be prevented by a vaccine?			
	No.	%	Valid %
Yes	85	14.5	14.5
No	221	37.8	37.8
Not sure	279	47.7	47.7
Total	585	100.0	100.0
Do you feel you get enough information about vaccines and their safety?			
	No.	%	Valid %
Yes	128	21.9	21.9
No	331	56.6	56.6
Not sure	126	21.5	21.5
Total	585	100.0	100.0
Information on side effects following immunization is discussed openly by the authorities.			
	No.	%	Valid %
Yes	31	5.3	5.3
No	403	68.9	68.9
Not sure	151	25.8	25.8
Total	585	100.0	100.0

Since the survey was conducted in extraordinary circumstances during the Covid-19 pandemic and the ensuing immunization program, the respondents were also asked whether they would get vaccinated if a vaccine were produced and whether they believed there was political pressure for vaccination. A large number said "No" (40.3%), while a significant number answered "Not sure" (33.8%). In terms of age, 24.62% of those who would not get the vaccine belong to the 18-34 age brackets. However, what most of the respondents agreed on was that there is political pres-

sure for vaccination (66.7%). Given that the survey was conducted at a time when none of the vaccines had been available, I need to stress that some other surveys carried out in early 2021 showed similar results. For example, a public opinion poll carried out by the *New Serbian Political Thought* magazine on a sample of 900 respondents showed that 27.1% of the citizens would not get vaccinated, while 37.8% were not sure (*Nova Srpska Politička Misao*, 2021). The opinion poll revealed that the majority of those who would not get vaccinated were young people, a finding which coincides with my survey. According to available data, in the two months since the immunization program began, i.e., until April 2021, only 13.78% of the population received both doses of the vaccine. Radio Slobodna Evropa (Free Europe Radio) reports that vaccination in Serbia is "a victim of the Infodemic", i.e., rapid spread of an excessive amount of information (Stevanović, 2021).

Table 8. Vaccine/vaccination specific issue (Covid-19 vaccine)

If Covid-19 vaccine were produced, would you get the vaccine?			
	No.	%	Valid %
Yes	151	25.8	25.8
No	236	40.3	40.3
Not sure	198	33.8	33.8
Total	585	100.0	100.0
Do you think there is political pressure on governments to immunize their citizens against Covid-19?			
	No.	%	Valid %
Yes	390	66.7	66.7
No	71	12.1	12.1
Not sure	124	21.2	21.2
Total	585	100.0	100.0

Discussion and Conclusion

On the one hand, there is the indisputable link between public health and national security, as well as the fact that the vaccine is a civilizational achievement and one of the most important mechanisms of safeguarding public health (and, by extension, national security). On the other hand, however, there is the growing vaccine hesitancy, ranked by the WHO in 2019 among the top ten threats to public health. If vaccine hesitancy poses a threat to public health, on which national security hinges, it begs the question of whether vaccine hesitancy can likewise be considered a

threat to national security and what is actually meant by this hesitancy. In order to respond to this question, at least in the case of Serbia, where research on the link between public health and national security, as well as vaccine hesitancy is extremely scarce, I undertook a pilot study based on the questionnaire developed by the WHO SAGE Working Group on Vaccine Hesitancy – Vaccine Hesitancy Survey (VHS). However, before presenting the results, it was necessary to discuss the relatively recent emergence of anti-vaccination movements in Serbia, as well as the culmination of their activities during the Covid-19 pandemic. Anti-vaccination movements emerged in Serbia following the publication of the Wakefield Paper and the appearance of social media and networks, which directly impacted the MMR vaccine administration in Serbia and led to a measles epidemic in 2017/18. However, the activities of these movements and public appearances of certain individuals intensified during the Covid-19 pandemic and at the beginning of the immunization program in Serbia. The movements as well as the individuals have claimed, among other things, that because we have a large number and different types of vaccines at our disposal, "we live in an experimental cage", and that people fall ill after they get vaccinated.

What the public and academic discourse in Serbia is failing to acknowledge, however, is that anti-vaccination movements are only a piece of the puzzle that is vaccine hesitancy, which is far more complex and determined by a host of other factors. For example, one of the most significant factors is trust in government, health system and other institutions. Just how much this trust is important is illustrated by the fact that in 1972 the Yugoslav authorities ordered mandatory immunization of the population using vaccines of dubious origin and series; however, because the citizens trusted the government and grasped the gravity of the situation, the program did not encounter any resistance, except in Kosovo and Metohija, whose population distrusted the authorities and, by extension, vaccination.

Even though we are again facing a very serious situation, which affects all aspects of life and security and where information about the origin and composition of vaccines is readily available, the flippant behavior of politicians and members of the Crisis Response Team at the beginning of the pandemic and, soon thereafter, the passing of restrictive measures and the intimidation of citizens, the spreading of contradictory information and the manipulation with the numbers of deaths all created a climate of mistrust, uncertainty and fear. This was confirmed by the results of my survey, according to which 32% of the respondents believe the information provided by politicians the least, while as many as 77.1% of the respondents do not believe the information published by the Crisis Response Team. With reference to historical influences, only a few respondents (16.1%) can remember an event in the past that would discourage them from getting vaccinated, the most common example cited being the link between vaccines and autism, which coincides with the

emergence of anti-vaccination movements in Serbia following the publication of the Wakefield Paper.

Besides expressing their distrust of the information provided by politicians, a large number of the respondents (68.2%) believe that the government's decision to purchase vaccines is swayed by lobbyists and certain producers. Over 50% of the respondents feel they do not get enough reliable information about vaccines and their safety, while 68.9% think that the authorities do not discuss the damaging effects of vaccines openly enough. Since the survey was carried out during the pandemic, when asked whether they would get vaccinated against Covid-19, a significant number of the respondents (40.3%) said they would not, while 66.7% of them believe there is political pressure for vaccination. Interestingly, a large number of the respondents answered nearly every question with "Not sure". Their uncertainty can be explained by the massive amount of contradictory information broadcast in the media, in other words, by the "balkanization of scientific knowledge" and the creation of illocutionary cacophony.

Having in mind that vaccine hesitancy is influenced by a number of factors, the question arises which of them have the greatest impact on vaccine hesitancy in Serbia. Based on the research findings of the survey and a review of the literature, I would argue that political factors, trust in society's institutions and authorities and misinformation are the most influential among those factors. At the same time, it should be noted that vaccination has been made a security issue in political discourse, as Serbia's economic future and survival depend on it, while infectious diseases are represented as a threat to national security. If the vaccines Serbia has at its disposal are effective and safe, and the very process of immunization can alleviate the consequences and bring the pandemic under control, it is safe to conclude that vaccine hesitancy in this particular case represents not only a threat to public health but also a threat to national security. However, as the very definition of vaccine hesitancy and the survey results show, people in charge of safeguarding national security have also contributed to this kind of resistance by their misguided decisions, contradictory information and inadequate ways of communication in a crisis situation. It is fair to say that the officials failed what Fukuyama termed the "political stress test" at the very beginning of the pandemic. In view of a continuation of the pandemic, it is still possible to take adequate measures against vaccine hesitancy, primarily by assuming responsibility for previous actions, ensuring transparency, fighting against the propagation of false information, educating young people about the significance of vaccination, holding public discussions on the benefits and potential complications of vaccination, developing an adequate strategy on raising public awareness about the importance of fighting infectious diseases and protecting national security. At the same time, Serbian authorities need to develop an appropriate strategy on the preparation for and fight against infectious diseases as well

as to revise their National Security Strategy so that it treats infectious diseases as a real, rather than potential, threat to national security and strengthen institutional perception of public health through the lens of security. As highlighted by Bliss, Morrison and Larson, we need to confront the reality that vaccine hesitancy is a national security matter (Bliss *et al*., 2020).

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